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APPLICATION FOR UNITED STATES LETTERS PATENT

INVENTOR: ROBERT L. TRITT, KYLE M. MALLOT,
TODD P. GLASGOW, BRADLEY C.
GLASCOCK, AND SCOTT A. HAWKINS

TITLE: SIMULTANEOUS REAL-TIME ACCESS TO
FINANCIAL INFORMATION

ATTORNEY: MATTHEW J KELLY
BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200

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SIMULTANEOUS REAL-TIME PRESENTATION OF FINANCIAL INFORMATION

RELATED APPLICATIONS

5 The following applications are related by subject matter and are hereby incorporated by reference:

Application Serial No. _____ entitled "Real-Time Presentation of Financial Information." Attorney reference 10098/5 filed herewith.

Application Serial No. _____ entitled "Method of Accessing Financial Information". Attorney reference 10098/7 filed herewith.

10 Application Serial No. _____ entitled "Method of Account Holder Access to Financial Information." Attorney reference 10098/8 filed herewith.

15 Application Serial No. _____ entitled "Method of Charging for Access to Financial Information." Attorney reference 10098/13 filed herewith.

BACKGROUND

20 A user of financial system must log-on to the financial system before the user performs an action such as an inquiry or a transaction. If the user wishes to access another financial system, the user must log-on to the second financial system. Each financial system usually has its own menus and presents information in its own manner. Thus, a user, who wishes to access multiple financial systems, must remember multiple log-on user IDs and passwords and learn to operate each financial system. This process is time consuming and difficult. If the user wishes to access information from multiple financial system, the user access each financial system serially, create time lags between accesses.

BRIEF SUMMARY

25 The present invention is defined by the following claims, and nothing in this section should be taken as a limitation on those claims. By way of introduction, the preferred embodiments describe below include a method of simultaneously presenting user specific real-time financial information

includes authenticating a user, for example by using a user-id and password. Then receiving an input from the user indicating the shareholder of interest. The user is then presented with a list of the shareholder's account information. The shareholder account information can be retrieved from several different record keeping systems. The record keeping systems can be maintained by different entities and can store the respective account information in different formats.

The shareholder account information can be retrieved by broadcasting an account inquiry to the record keeping systems or by using a cross-reference table that indicates which record keeping systems the shareholder has accounts with. A combination of the broadcast and cross-reference table can be used.

Once the shareholder account information is presented, the user can select an account, for example by a hyperlink tag, and receive detailed information about that account.

BRIEF DESCRIPTION OF SEVERAL VIEWS OF THE DRAWINGS

The present invention is illustrated by way of example and not limitation in the accompanying figures. In the figures, like reference numbers indicate identical or functionally similar elements. Additionally, the left-most digit(s) of a reference number identifies the figure in which the reference number first appears.

Figure 1 is a representation of an embodiment of a system for accessing financial information;

Figure 2 is a representation of an embodiment of databases stored in a financial record keeping system; and

Figure 3 is a diagram of an embodiment of a screen with multiple regions displaying real-time financial information from multiple record keeping systems simultaneously.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A financial intermediary, such as a stockbroker, needs to access his clients' financial information. The clients' financial information often includes information about accounts at different mutual fund companies and that information is often maintained on different record keeping systems. The present invention allows the financial intermediary to view substantially simultaneously the clients' financial information from multiple record keeping systems with one user ID and password. This significantly simplifies the process of accessing the clients' financial information.

DST Systems' Vision Mutual Fund Gateway (Vision) incorporates some, but not all, of the features described below. Vision includes an interactive internet site, www.dstvision.com, that allows financial intermediaries to access financial information in a real-time environment. Financial intermediaries include broker/dealers, financial advisors, financial representatives, and other. The financial information accessible through Vision includes fund, shareowner account, and dealer information. Specifically, the financial information includes real-time information such as shareholder positions, account options, transaction histories, fund pricing and yields. Further, the financial information includes fund information, net asset value summaries, distribution information, order information, dealer information, branch information, representative information, and account summaries by representatives or advisor number. Vision also supports information inquiry that include inquiries to account information by dealer account number, fund account number, shareholder name, tax identification number or social security number, and representative or advisor number.

Vision provides access to all authorized fund groups via a single log-on, real-time fund and shareholder account information, transaction processing, and new account creation. Vision is accessible via an intranet or other networks, such as the Internet.

Figure 1 is a representation of an embodiment of a system 100 for accessing and presenting financial information. The system 100 includes a computer 104, a server 106, and first and second record keeping systems

108, 110. The computer 104 includes a personal computer, terminal, laptop, palmtop, mainframe, or other device capable of communicating with the server 106. In an embodiment, the computer 104 includes an output device such as a monitor, a diskette drive, or a printer. The computer 104 includes an user interface for receiving inputs from the user and providing outputs to the user.

5 The server 106 communicates with the computer 104 and a plurality of record keeping systems, for example the first record keeping system 108 and the second record keeping system 110. In an embodiment, the server 106 includes an access module and an user interface module. The access module is capable of accessing a plurality of independent substantially real-time financial record keeping databases. The user interface module is capable of receiving inputs from a user and presenting results to a user. In an other embodiment, the server 106 includes a user interface, record keeping system interface, and a router. The user interface communicates with an authorized user and receives user requests from the user and transmits user responses to the user. The record keeping system interface accesses information on first and second record keeping systems that maintain respective first and second account information in different formats. The router routes user requests to the first or second record keeping system as appropriate.

10 In a preferred embodiment, the first and second record keeping systems 108, 110 are owned by different entities, such as mutual fund companies. The server 106 may be owned by the same entity that owns one of the first and second record keeping systems 108, 110 or other entity. An example of a record keeping is DST Systems' TA2000®.

15 In an embodiment, the records stored in the first and second record keeping systems 108, 110 are stored in different formats. In another embodiment, the record keeping systems 108, 110 have different data structures or different operating systems. The record keeping systems 108, 110 are controlled by a.) a data warehouse company that maintains the data

for a financial institution, b.) the financial institution maintains their own data warehouse, or c.) another entity.

5 The records stored in the first and second record keeping systems 108, 110 include account information, such as mutual fund accounts, annuities, and other financial information, and fund information, such as yield to date, and net asset value. The records may include other account and/or fund information.

10 A user at the computer 104 accesses the information stored on the first and second record keeping systems 108, 110 through the server 106.

15 Preferably the users are financial intermediaries. The computer 104 accesses the server 106 via the Internet, a direct connect, an intranet, or other mechanism. Preferably, the computer 104 accesses the server 106 via the Internet using the secure socket layer protocol (SSL). Preferably, the first and second record keeping systems 108, 110 maintain real-time financial information on accounts and funds.

20 The server 106 maintains several databases that track relationships. The relationships are stored in tables, database, flat files, or with other mechanisms. These databases include authentication information, such as the operator ID and password that are used during user log-on. The databases include the relationship between the operator ID and remote systems operator IDs.

25 For example, a user signs onto the system 100 using an operator ID and password. When that user accesses a record keeping system, the server 106 determines an second ID for the record keeping system associated with the operator ID and password. The server 106 sends a request for information to the record keeping system with the second ID, that is the operator ID or remote system operator ID. Thus, a user need only remember the operator ID and password for the server 106, and need not know the IDs for the record keeping systems. Each record keeping system uses its own ID or the server operator ID.

30 The server 106 also maintains information representing the relationships between operator ID and the user's financial companies. For

example, after a user logs-on to the server 106 with an operator ID and password, a list of fund families is presented. The list includes the funds that the user is allowed to access. Fund families are also called fund companies, mutual fund companies, and management companies.

5 The server 106 also maintains a routing table that represents the relationship between the fund companies and the record keeping system where their financial data is stored. This table is used to route request to record keeping systems. Financial data includes account data and fund data.

10 For example, when the server 106 receives an inquiry for fund information, the server 106 determines which record keeping entity has the data for that fund. A request for an action is then transmitted to that record keeping entity. In a preferred embodiment, the record keeping systems are directly connected with the server 106, and the routing includes port identifications, where each record keeping system is associated with a port. The action can include an inquiry, a transaction, or other activity related to an account or fund.

15 Financial intermediaries are often associated with dealer, branch, and representative identifiers. In a preferred embodiment, the record keeping system may maintain the relationships between each operator ID and the operator's dealer, broker, and representative. The dealer, broker, representative information is used to control access to account and fund information on the record keeping system. For example, a representative has access to his clients' account information. A branch manager has access the account information of the representatives in that branch. A dealer has access to the account information of the representatives at each branch.

20 25 30 Alternatively, the server 106 maintains the relationships between a user's operator ID and the dealer, branch, and representative associated with the operator ID. The dealer, branch, and representative is provided to the record keeping system in a request for information or a request for a transaction.

In a preferred embodiment, the first record keeping system 108 is a TA2000® system and the server 106 is a FAN® switch and a Stratus® server.

5 Optionally, a user at the computer 104 also accesses a record keeping system independently of the server 106. For example, direct connection is offered by some record keeping systems.

10 After the server 106 transmits a request for information to a record keeping system, the server 106 receives a response from the record keeping system. The server 106 evaluates the response and selectively presents a portion of the response to the user. The response includes the requested information or an error message. Portion of multiple responses can be presented to the user serially or substantially simultaneously.

15 In an embodiment, the server 106 executes a computer program(s) embodied on a computer-readable medium capable of presenting real-time financial account information to authenticated users. The computer program(s) includes a security module, a communication module, and a presentation module. The security module authenticates users for example with a user ID and password. The communication module communicates with at least first and second record keeping systems. The first and second record keeping system storing at least first and second real-time financial accounts in respective first and second storage formats. The first storage format being different from the second storage format. The communication module sending first and second requests for real-time financial account information to the respective first and second record keeping systems and receiving first and second responses from the respective first and second record keeping systems. The presentation module presents a portion of the first and second responses serially or substantially simultaneously.

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30 In another embodiment, the server 106 includes an access module and a user interface module. The access module accesses a plurality of independent substantially real-time financial record keeping databases. The user interface module receives requests and presenting results relating to the plurality of independent substantially real-time financial record keeping

databases. The user interface module presents a uniform set of user displays for accessing the independent substantially real-time financial record keeping databases.

The user provides authentication information, such as a user identification and password. Once authenticated, the user enters an identification or identifications of the account holder(s) that the user wishes to get information about. A request for account information associated with the account holder identification(s) is sent to various record keeping systems. A response is received from those record keeping systems.

The request for account information is sent to the record keeping systems known to have information associated with the account holder identification. This can be determined by using a cross-reference table that indicates which record keeping systems have information associated with a given account holder's identification. This cross-reference table is created after the user enrolls with the server 106. Preferably, the record keeping systems or the financial institutions provide the cross-reference information to server 106. Some record keeping systems or the financial institutions may choose not provide the cross-reference information. In this case, they receive a broadcast request for information every time a request for information is sent.

Alternatively, this cross-reference between account holder's identification and accounts is created during the enrollment process where each fund company is identified by the user. A cross-reference between fund company and record keeping system is used to create the cross-reference table between account holder identification and record keeping system.

Alternatively, the cross-reference table is created in whole or in part based on previous responses to broadcast requests for information. That is, a request for account information associated with an account holder identification is sent to some or all of the known record keeping systems. The broadcast is performed periodically or on an ad hoc basis. The responses indicate which record keeping systems have account information associated

with them. This information is used to update the cross-reference table. This is an example of a dynamic cross-reference table.

5 The requests for account information are transmitted based on a cross-reference table and/or based on a list of record keeping systems or financial institutions that are known not to be included in cross-reference table. Some entities maintaining record keeping systems or financial institutions may prefer to receive a request every time a request is made and then determine if the requested account information is available instead of maintaining cross-reference tables.

10 While financial intermediaries accessing mutual fund accounts have been used as an example, the present invention as defined by the claims can be applied to other financial accounts such as annuities, credit accounts, bank accounts, and other financial accounts.

15 Figure 2 is a representation of an embodiment of databases stored in a financial record keeping system. The record keeping system format 200 includes information on fund families, 202, 204. The first fund family 202 includes information related to a plurality of accounts in the accounts data 206 and information related to a plurality of funds in the funds data 208. The second fund family 204 includes information related to a plurality of accounts in the accounts data 210 and information on a plurality of funds in the funds data 212. The funds data 208, 212 includes such information as daily yields, year to date performance, total value, and other information.

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25 In one example, the record keeping systems 200 is the first record keeping system 108 (Figure 1) and is maintained and controlled by DST Systems, the first and second fund families 202, 204 are respectively the First Fund Company and the Second Fund Company. The First Fund Company has a thousand accounts each owned by one or more account holders. The First Fund Company has twenty funds, such as a domestic growth fund, an international growth fund, a money market fund, and a balanced fund. The second record keeping system 110 (Figure 1) is maintained by a mutual fund

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company and includes information on only the mutual fund company's mutual funds and accounts.

5 The fund families are mutual fund families, or other grouping of accounts usually at the same financial institution. The accounts represent annuities, money markets, margin accounts, bank accounts, credit accounts, and/or other accounts.

10 Figure 3 is a diagram of an embodiment of a screen 300 includes a balance area 302, a first account area 304, and a second account area 306. Additional account areas will be included if more accounts are retrieved. The screen 300 may be presented to a user on the computer 104 (Figure 1) on a monitor. The balance area 302 that includes information, such as, a summary of information in the first and second account areas 304, 306. Optionally, the balance areas 302 also includes information relating to the account holder such as the account holder's name, address, phone number, and other information. The first and second account areas 304, 306 each include information from different record keeping systems and/or account information. In the embodiment shown in Figure 3, the first account area 304 shows information relating to the "First Fund Company". The account holder, "John Smith", has two accounts with First Fund Company. These accounts have the same account number "000111" and different fund names "Growth" and "Tech Fund." Account information about John Smith's accounts include his tax ID, for example his social security number, the number of shares, and the balance. Other account information can also be included.

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20 Once screen 300 is presented to the user, the user receives further details of any account by selecting the desired account. The desired fund is selected by activating a hyper link on the display, by entering the account information, or by any other means.

25 Preferably, the account information shown in Figure 3 is substantially real-time financial information.

30 While Figure 3 shows a first record keeping system with a first and second fund family having account data and fund data, other embodiments may have similar or different structure and include similar or different

information. For example, the fund families are replaced with annuity family, or accounts at a particular financial institution that may include some mutual funds, some annuity funds, some brokerage accounts, and/or other accounts. In these cases, the account data contains information about the accounts.

5 However, the type of information may vary based on the type of account.

The second account area 306 shows information for John Smith at the Second Fund Company.

10 For example, the screen 300 having substantially real-time financial information that is stored on a first record keeping system and a second record keeping system, the first record keeping system being different from the second record keeping system is accessed by the following method.

15 The server 106 (Figure 1) receives an account holder identification from a user. The account holder identification is associated with a first account information stored on the first record keeping system and a second account information on the second record keeping system. The server 106 transmits first and second requests to the respective first and second record keeping systems. The first and second requests request information associated with the account holder identification. The server 106 receives first and second responses from the respective first and second record keeping systems. The first and second responses include substantially real-time financial information associated with the account holder identification. 20 Optionally, the server 106 presents a portion of the responses to the user.

25 Optionally, the first request is transmitted based on a cross-reference of account holder identification to record keeping systems and the second request is transmitted based on a list of record keeping systems known to be absent from the cross-reference. For example, the first request is transmitted based on Table 1 and Table 2 and the second request is transmitted based on Table 3.

30 Table 1 is an embodiment of a cross-reference table showing relationships between account holder, tax ID, first and second account holder

id, and record keeping system. Table 1 shows an account holder that has different account holder identifications for each record keeping system.

Account Holder	Tax ID	First Account Holder ID	Second Account Holder ID	Record Keeping System
John Smith	123-45-6789	JS0000123	JS0000123	First RKS
John Smith	123-45-6789	JS0000123	JS0000123	First RKS
John Smith	123-45-6789	JS0000123	XYZ00999	Second RKS
Mary Jones	111-22-3333	MJ101010	MJ101010	First RKS
Mary Jones	111-22-3333	MJ101010	444555666	Second RKS
Mary Jones	111-22-3333	MJ101010	444555666	Third RKS
Mary Jones	111-22-3333	MJ101010	87654321	Fourth RKS

Table 1

Table 2 is an embodiment of a cross-reference table showing relationships between account holder, tax ID, second account holder ID, financial institutions, and account identifier. Table 2 shows that an account holder may have several accounts at one or more financial institutions and the account information is stored on different record keeping systems as indicated in Table 1.

Account Holder	Tax ID	Second Account Holder ID	Financial Institution	Account Identifier
John Smith	123-45-6789	JS0000123	ABC Funds	1000333
John Smith	123-45-6789	JS0000123	CDF Funds	2200333
John Smith	123-45-6789	XYZ00999	XYZ Funds	990099
Mary Jones	111-22-3333	MJ101010	ABC Funds	1000111
Mary Jones	111-22-3333	444555666	PDQ Funds	2234343
Mary Jones	111-22-3333	444555666	DEF Funds	333444
Mary Jones	111-22-3333	87654321	HIJ Funds	44440001

Table 2

Table 3 is an embodiment of a table showing relationships between record keeping systems and financial institutions. Table 3 shows the record keeping systems and financial institutions that are accessible to the server 106 (Figure 1) but are do not maintain their accounts in the cross-reference tables Table 1 and Table 2. The record keeping systems and financial

institutions in Table 3 receive a broadcasted request every time the server request account information.

It is preferred that all financial institutions whose account information is maintained on a given record keeping system maintain the cross-reference tables Table 1 and Table 2. In an alternative embodiment, only some financial institutions on a given record keeping system choose to not maintain the cross-reference between account holder and financial institutions and associated record keeping systems. While the record keeping systems or the financial institutions maintain the cross-reference between account holder and financial institutions and record keeping systems, the server 106 (Figure 1) would have a copy of the cross-reference table for routing requests. While maintenance of the cross-reference is performed by the record keeping system or the financial institution, however, the server 106 may also maintain the cross-reference table. For example, in an embodiment with a dynamic cross-reference table, the server 106 is constantly or periodically updates the cross-reference table.

Record Keeping System (Broadcast)	Financial Institutions
Fifth RKS	All Financial Institutions
Sixth RKS	All Financial Institutions
Seventh RKS	All Financial Institutions
Second RKS	TUV Fund Company, LMN Fund Company, and AAA Annuity Company

Table 3

The following appendices are hereby incorporated by reference:
Appendix A, entitled "Vision Mutual Fund Gateway Training Guides" and
Appendix B, entitled "Vision Mutual Fund Gateway External Funds Technical
Manuals."

While the examples provided above have mutual fund companies as the financial institutions, the invention is applicable to other financial institutions such as those that deal with annuities, variable annuities, bank accounts, credit accounts, and bond funds.

While preferred embodiments have been shown and described, it will be understood that they are not intended to limit the disclosure, but rather it is intended to cover all modifications and alternative methods and apparatuses falling within the spirit and scope of the invention as defined in the appended claims or their equivalents.